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DRAFT Southern California Association of Governments Catalog of Transportation System Management (TSM) GHG Reduction Policy Options

A catalog of greenhouse gas (GHG)–reducing actions and policy options based on actions undertaken or considered in climate change action plans by multi-stakeholder groups in a wide cross-section of U.S. states and by state, local, and private participants.

Key to Nominal Rankings of Options in the Tables That Follow:

Potential GHG Emission Reductions [1]	Potential Cost or Cost Savings [1, 2]
High (H): At least 1.0 million metric tons (MMt) carbon dioxide equivalent (CO_2e) per year by 2030	**High (H)**: $100 per metric ton CO_2e (tCO_2e) or above
Medium (M): From 0.1 to 1.0 $MMtCO_2e$ per year by 2030	**Medium (M):** $0 to $100/$tCO_2e$
Low (L): Less than 0.1 $MMtCO_2e$ per year by 2030	**Low (L):** Less than $0/$tCO_2e$
Uncertain (U): Insufficient information to estimate at this time	**Uncertain (U):** Insufficient information to estimate at this time

[1] Several measures may overlap in terms of emissions reductions and/or cost impacts. "Stand-Alone" estimates provide values for measures that would be implemented independently of other measures, before accounting for potential overlap or synergies
[2] Costs are denoted by a positive number. Cost savings (i.e., "negative costs") are denoted by a negative number.

Definition of "Priorities for Analysis":

- **High:** High-priority options will be analyzed first.
- **Medium:** Medium-priority options will be analyzed next, time and resources permitting.
- **Low**: Low-priority options will be analyzed last, time and resources permitting.

Important Note: The actions are numbered in this catalog solely for convenience in referencing them. Their numbers do NOT reflect a ranking or prioritization of the actions.

Transportation System Management

Note that this listing will be developed more fully during the Transportation System and Infrastructure (TSI) TWG process. TWG members are encouraged to provide input on policies and programs currently in place to assist in defining baseline conditions. The "Notes" column may be used to record recently enacted policies and programs.

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
TSM-1. BICYCLE AND PEDESTRIAN FACILITATION						
1.1	Promote Bike Share Programs					
1.2	Promote Bicycle Valets and Safe Bicycle Parking					
1.3	Increase Bike/Walk Trips with Improved Streets and Facilities					
1.4	Promote Transportation Alternative by Third Parties					
1.5	Subsidize Bicycles and Bicycle Accessories					
1.6	Valet Bicycle Parking at Events					
1.7	Provide Walk and Bike Safety Education					
TSM-2. ROAD TRAFFIC MANAGEMENT						
2.1	Lower and/or Enforce Speed Limits					
2.2	Develop Traffic Calming Systems					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
2.3	Increase Use of HOV, HOT and Dedicated BRT Lanes					
2.4	Increase Bus Traffic Signal Preemption					
2.5	Arterial Traffic Management					
2.6	Use Intelligent Transportation Systems to Share Information with Drivers					
2.7	Synchronize Traffic Signals					
2.8	Encourage Bus Tracking Systems and Information Sharing					
2.9	Provide Transit Information Easily Understandable and in Multiple Languages					
2.10	Implement Smart Bus Technology					
2.11	Transportation Operation System					
2.12	Changeable Message Signs					
2.13	Freeway Service Patrol					
2.14	Improved Transit to Public Events					
2.15	LOS Standards					
TSM-3. ALTERNATIVE MODES OF TRANSPORTATION						

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
3.1	Encourage Government Employees to Use Alternative Transportation					
3.2	Encourage Alternative Transportation					
3.3	Tap Funding Sources for Alternative Transportation					
3.4	Support School Bus Use					
3.5	Encourage Large Businesses to Develop Alternative Transportation Plans					
3.6	Transit Funding					
3.7	Promote Maintenance and Driver Training					
3.8	Distribute Educational Information					
3.9	Help Establish Baselines/Guidelines to Create Green Transportation Standards					
3.10	Alternative Work Schedules and Telecommuting					
TSM-4. TRANSIT SERVICE FACILITATION						
4.1	Expand Transit Services					
4.2	Improve Transit Stops and Stations					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
4.3	Encourage Regional Transit Programs					
4.4	Facilitate Intermodal Travel					
4.5	Focus Transit Resources					
4.6	Free Transit Feasibility					
4.7	Universal Fare Media Card					
4.8	Off-peak Flag Stops					
4.9	Real-time Transit Information					
TSM-5. FREIGHT AND HEAVY DUTY INCENTIVES						
5.1	Encourage Old Vehicle and Equipment Retirement for General Public					
5.2	Encourage Old Vehicle and Equipment Retirement for Construction Vehicles					
5.3	Expand Alternative Fuels Use					
5.4	Develop Alternative Fuel Stations					
5.5	Convert Street Sweeping and Refuse Vehicles to Alternative Fuels					
5.6	Replace Local Government Fleets with Alternative Fuel Vehicles					
5.7	Convert Transit Buses to Alternative Fuels					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
5.8	Replace Gasoline Powered Mowers with Electric Mowers					
5.9	Require Zero Emission Forklifts					
5.10	Develop Anti-Idling Regulations for Heavy-Duty Vehicles					
5.11	Develop Anti-Idling Regulations for Construction Equipment					
5.12	Encourage Truck Stop Electrification					
5.13	Promote Truck Refrigeration Units					
5.14	Reduce Locomotive Fuel					
5.15	Encourage Cold Ironing at Ports					
5.16	Facilitate Freight Logistics Improvements					
5.17	Allow Increased Size and Weight of Trucks					
5.18	Facilitate Pre-Clearance at Scale Houses					
5.19	Promote Freight Villages/ Consolidation Centers					
5.20	Support Procurement of an Efficient Heavy-Duty Vehicle Fleet					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
5.21	Freight Rail Electrification					
5.22	Zero Emission Trucks					
5.23	Dedicated Truck Corridors					
TSM-6. PRICING INCENTIVES AND DISINCENTIVES						
6.1	Adopt Congestion Pricing					
6.2	Adopt Emission Based Tolls					
6.3	Implement Urban and Intercity Road Tolls					
6.4	Use Toll Revenue to Fund Alternative Fuel Vehicles					
6.5	Implement Parking Pricing, Excise Tax and/or Supply Restrictions					
6.6	Increase the Fuel Sales Tax					
6.7	Require Mileage Based Insurance					
6.8	Increase Gas Prices to Include Carbon and Pollution Costs					
6.9	Convert Existing Roads to Toll Roads					
6.10	Implement VMT Tax					
6.11	Parking Benefit Districts					
6.12	Performance Pricing for Parking					
6.13	Unbundle Parking from Leases					

Option No.	GHG Reduction Policy Option	Potential GHG Emission Reductions	Cost per Ton	Externalities, Feasibility Considerations	Priority for Analysis	Notes / Related Actions
6.14	Transportation Impact Fees					
6.15	Eliminate/Reduce Parking Minimums					
6.16	Increase Parking Rates					
6.17	Transit Discounts to Events					
6.18	Parking Cash-out Program					
6.19	VMT Based Emission Fees					
TSM-7. Baseline Data Collection Measures						
7.1	Monitor Travel Time Delays					
7.2	Performance Measures for Arterial Streets					

Acronyms

ASTM = American Society of Testing Materials
ATVs = all-terrain vehicles
B2 = fuel mixture of 2% biodiesel and 98% gasoline
BRT = Bus Rail Transit
CCI = Cross-Cutting Issues
CO_2 = carbon dioxide
CMAQ = Congestion Management and Air Quality
DOT = Department of Transportation
E10 = fuel mixture of 10% ethanol and 90% gasoline
EPA = U.S. Environmental Protection Agency
GHG = greenhouse gas
HOT = high occupancy toll lanes
HOV = high-occupancy vehicles

LCF = low-carbon fuel
LRT = light rail transit
LEED = Leadership in Energy and Environmental Design
MPG = miles per gallon
MPO = metropolitan planning organization
R&D = research and development
RFS = renewable fuel standard
SLR = sea level rise
TIF = tax increment financing
TDRs = transferable development rights
TRU = truck refrigeration unit
TWG = Technical Work Group
VMT = vehicle miles traveled